CLAIMS

What is claimed is:

1. A method for monitoring fly height between a magnetic recording medium and a transducing head, comprising:

calculating a magnetic spacing change value relative to the recording medium and the transducing head; and

adjusting the magnetic spacing change value as necessary to reflect transducing head wear.

2. A method in accordance with Claim 1 wherein said magnetic spacing change value is calculated from media noise sensed on the recording medium.

3. A method in accordance with Claim 2 wherein said media noise is processed so as to be substantially free of electronic power spectra noise generated by read channel circuitry associated with the transducing head.

4. A method in accordance with Claim 2 wherein said magnetic spacing change value is calculated after decomposing said media noise into frequency components using a Fast Fourier Transform conversion process.

5. A method in accordance with Claim 2 wherein said magnetic spacing change value is calculated after decomposing said media noise into frequency components using a spectrum analyzing process.

6. A method in accordance with Claim 2 wherein said magnetic spacing change value is calculated using at least two frequency components of said media noise.

7. A method in accordance with Claim 1 wherein transducing head wear is determined by measuring transducing head signal amplitude after accounting for changes in amplitude due to conditions other than transducing head wear.

8. A method in accordance with Claim 1 wherein the transducing head comprises a magnetoresistive (MR) read sensor and transducing head wear is determined by measuring a change in MR stripe height of the read sensor while using measured resistance of a write coil component of the transducing head to correct for temperature drift.

9. A method in accordance with Claim 8 wherein a change in fly height is calculated as the difference between the magnetic spacing change value and the change in MR stripe height.

10. A method in accordance with Claim 1 wherein the magnetic recording medium comprises magnetic tape and the transducing head is a tape head.

11. A system for monitoring fly height between a magnetic recording medium and a transducing head, comprising:

first means for calculating a magnetic spacing change value relative to the recording medium and the transducing head; and

second means for adjusting said magnetic spacing change value as necessary to reflect transducing head wear.

12. A system in accordance with Claim 11 wherein said first means is adapted to calculate said magnetic spacing change value from media noise sensed on the recording medium.

13. A system in accordance with Claim 12 wherein said first means is adapted to process said media noise so as to be substantially free of electronic power spectra noise generated by read channel circuitry associated with the transducing head.

14. A system in accordance with Claim 12 wherein said first means is adapted to calculate said magnetic spacing change value after decomposing said media noise into frequency components using a Fast Fourier Transform conversion process.

15. A system in accordance with Claim 12 wherein said first means is adapted to calculate said magnetic spacing change value after decomposing said media noise into frequency components using a spectrum analyzing process.

16. A system in accordance with Claim 12 wherein said first means is adapted to calculate said magnetic spacing change value using at least two frequency components of said media noise.

17. A system in accordance with Claim 11 wherein said second means is adapted to determine transducing head wear by measuring transducing head signal amplitude after accounting for changes in amplitude due to conditions other than head wear.

18. A system in accordance with Claim 11 wherein the transducing head comprises a magnetoresistive (MR) read sensor and said second means is adapted to determine transducing head wear by measuring a change in MR stripe height of the read sensor while using measured resistance of a write coil component of the transducing head to correct for temperature drift.

19. A system in accordance with Claim 18 wherein said second means is adapted to calculate a change in fly height as the difference between the magnetic spacing change value and the change in MR stripe height.

20. A system in accordance with Claim 11 wherein the system is embodied in one of a data storage system or a test apparatus for characterizing recording heads or recording media.

21. A method for monitoring fly height between a magnetic recording medium and a transducing head, comprising:

sensing media noise on the recording medium; and

calculating a magnetic spacing change value from the media noise.

22. A method in accordance with Claim 21 wherein said media noise is generated by forming a substantially random pattern of magnetic domains on the recording medium using one of an A.C. erasure technique, a D.C. erasure technique or a bulk erasure technique.

23. A method in accordance with Claim 21 wherein said media noise is processed so as to be substantially free of electronic power spectra noise generated by read channel circuitry associated with the transducing head.

24. A method in accordance with Claim 21 wherein said magnetic spacing change value is calculated after decomposing said media noise into frequency components using a Fast Fourier Transform conversion process.

25. A method in accordance with Claim 21 wherein said magnetic spacing change value is calculated after decomposing said media noise into frequency components using a spectrum analyzing process.

26. A method in accordance with Claim 21 wherein said magnetic spacing change value is calculated using at least two frequency components of said media noise.

27. A method in accordance with Claim 21 further including adjusting magnetic spacing change value as necessary to reflect transducing head wear.

28. A method in accordance with Claim 27 wherein transducing head wear is determined by measuring transducing head signal amplitude after accounting for changes in amplitude due to conditions other than head wear.

29. A method in accordance with Claim 27 wherein the transducing head comprises a magnetoresistive (MR) read sensor and transducing head wear is determined by measuring a change in MR stripe height of the read sensor while using measured resistance of a write coil component of the transducing head to correct for temperature drift.

30. A method in accordance with Claim 29 wherein a change in fly height is calculated as the difference between the magnetic spacing change value and the change in MR stripe height.

31. A system for monitoring fly height between a magnetic recording medium and a transducing head, comprising:

first means for sensing media noise on the recording medium; and

second means calculating a magnetic spacing change value from the media noise.

32. A system in accordance with Claim 31 wherein said media noise is corresponds to a substantially random pattern of magnetic domains on the recording medium using one of an A.C. erasure technique, a D.C. erasure technique or a bulk erasure technique.

33. A system in accordance with Claim 31 wherein said first means is adapted to process said media noise so as to be substantially free of electronic power spectra noise generated by read channel circuitry associated with the transducing head.

34. A system in accordance with Claim 31 wherein said first means is adapted to calculate said magnetic spacing change value after decomposing said media noise into frequency components using a Fast Fourier Transform conversion process.

35. A system in accordance with Claim 31 wherein said first means is adapted to calculate said magnetic spacing change value after decomposing said media noise into frequency components using a spectrum analyzing process.

36. A system in accordance with Claim 31 wherein said first means is adapted to calculate said magnetic spacing change value using at least two frequency components of said media noise.

37. A system in accordance with Claim 31 wherein said second means is further adapted to adjust the magnetic spacing change value as necessary to reflect transducing head wear.

38. A system in accordance with Claim 37 wherein said second means is adapted to determine transducing head wear by measuring transducing head signal amplitude after accounting for changes in amplitude due to conditions other than head wear.

39. A system in accordance with Claim 37 wherein the transducing head comprises a magnetoresistive (MR) read sensor and said second means is adapted to determine transducing head wear by measuring a change in MR stripe height of the read sensor while using measured resistance of a write coil component of the transducing head to correct for temperature drift.

40. A system in accordance with Claim 39 wherein said second means is adapted to calculate a change in fly height as the difference between the magnetic spacing change value and the change in MR stripe height.